INDEX

SOVIET APPLIED MECHANICS

Volume 9, Numbers 1-12, 1973

SOVIET APPLIED MECHANICS
Volume 9, Numbers 1-12, 1973

(A translation of Prikladnaya Mekhanika)

A

Abovskii, N. P.—527
Aksel'rad, E. L.—605
Akul'shina, T. S.—476
Alekseeva, N. K.—633
Alekseevskii, V. P.—413
Al-Nasam, I. M.—645
Amel'chenko, V. V.—1281
Amiro, I. Ya.—1153
Anatol'ev, A. V.—1327
Andreev, L. V.—321, 842
Andreikiv, A. E.—659
Anisimov, N. I.—1202
Antipov, V. A.—661
Antonenko, É. V.—847
Asaturyan, A. Sh.—892
Ashmarin, Yu. A.—349

B

Babenko, V. V.—1377
Babich, I. Yu.—370
Babii, V. P.—806
Babyak, V. S.—1298
Bar, I. L.—516
Barg, Ya. A.—393
Barodachev, N. M.—465
Bash, V. Ya.—1149, 1366
Bastun, V. N.—857, 1312
Belik, L. V.—650
Bessonov, V. G.—235
Biletskii, A. K.—413
Bilida, G. V.—637
Binkevich, E. V.—561
Blokh, M. V.—1169
Bobin, V. A.—242
Bogatyi, G. P.—842
Boiko, L. T.—672
Bondar, V. S.—273
Bondarenko, A. A.—101
Borisenko, V. I.—1220
Borisyuk, A. I.—46
Borodanov, A. D.—215
Borzin, Yu. V.—26
Botov, V. A.—1216
Bozhidarnik, V. V.—628
Brusilovskii, A. D.—287
Budaev, V. S.—171
Bugrim, O. V.—398
Burmistrov, E. F.—1281

C

Chebakov, M. I.—1316
Cheberyak, A. G.—1366
Chechenkina, O. V.—892
Cherevatskii, B. P.—1210
Chernyak, N. I.—1312
Chernyshenko, I. S.—1050
Chibiryakov, V. K.—142
Chinenkov,—331
Chirkov, Ya. V.—1251
Chobotov, V. P.—1327

D

Daich, I. M.—516, 888
Datsyshin, A. P.—735
Dekhtyar, A. S.—1186
Demokritov, V. N.—342
Dem'yanenko, V. I.—1349
Derbentsev, D. A.—229
Derkach, P. Kh.—433
Didkovskaya, T. V.—1343
Dlugach, M. I.—1180
Dobronranov, A. A.—1380
Dokuchaev, L. V.—37
Dolgov, N. M.—770
Dolinina, N. N.—42
Dubetskii, S. A.—659
Dubinskii, A. M.—130
Dubner, G. N.—574

E

Egorychev, O. A.—32
Emel'yanenko, V. V.—716
Endzhievskii, L. V.—527
Ershov, V. V.—1080
Evgen'ev, V. S.—917

F

Faizullin, L. Z.—1149
Fedik, I. I.—1141
Fesenko, E. V.—1125
Filatov, G. V.—495
Filippov, A. P.—187
Fishgal, S. I.—1254
Fleishmax, N. P.—681
Flyachok, V. M.—1163
Fot, N. A.—413
Fradlin, B. N.—1, 251, 345
Fradlin, V. N.—1258
Freger, G. E.—559

G

Galasi, A. A.—335
Ganiev, R. F.—150, 505, 1271
Ganulich, V. K.—830
Garifullin, F. A.—237
Garkusha, N. G.—537
Gavelya, S. P.—117
Ginzburg, I. N.—182
Girol, A. P.—460
Glozacheva, L. I.—1102
Golda, Yu. L.—22
Goloskokov, E. G.—745
Goncharyuk, D. V.—896
Gordon, E. Ya.—1098
Gorskii, B. E.—427
Gots, A. N.—26
Gotsulyak, E. A.—142
Gribanov, V. F.—863
Grigorenko, Ya. M.—599, 837
Grigor'ev, E. T.—86, 808
Grigorovich, V. M.—483, 1245
Grilitskii, D. V.—255, 622
Grinchenko, A. G.—196
Grinchenko, V. T.—111, 1262
Grinev, V. B.—187
Grobov, V. A.—1206
Gromov, V. G.—1157
Gronskii, V. I.—86, 808
Guba, V. M.—50
Gubenko, V. S.—433
Gulyaev, V. I.—142
Gustinov, Ch. S.—892
Guz', A. N.—463, 704, 721

I

Iavaov, Yu. K.—776
Ignat'ov, Yu. A.—721

Il'in, L. A.—269
Ieitner, F.—924
Isaenko, A. G.—130
Isaev, R. G.—90
Ishchenko, I. I.—1366
Ivanov, G. M.—339
Ivanov, S. D.—1141
Ivlev, D. D.—233

K

Kagonov, M. E.—16
Kaminskaya, D. A.—196
Kaminskii, A. A.—666
Karanukhov, V. G.—376
Kats, L. E.—393
Kavelerchik, B. Ya.—215
Kayuk, Ya. F.—299
Kazarskaya, T. I.—550
Kazhdan, L. S.—888
Khanzhov, A. D.—913
Khil'kevich, I. I.—104, 1248
Khitrov, V. N.—489
Khlebnoi, Ya. F.—500
Khmelovskii, L. T.—842
Khodova, A. E.—182
Khvostova, V. V.—1102
Kirkach, N. F.—745
Kizyma, Ya. M.—901
Kokhanovskii, G. I.—1355
Kolarzh, V.—924
Kolesnik, I. A.—654
Kolmanorskii, V. B.—641
Kolosov, L. V.—537
Konashenko, S. I.—786, 1102
Konomonko, V. O.—699
Koporulina, M. G.—808
Korobov, L. A.—331
Korobov, V. P.—273
Kosmodamianskii, A. S.—293
Kostyuk, L. K.—892
Koval'chuk, N. V.—1180
Koval'chuk, P. S.—699
Kovalenko, A. D.—111, 1262
Kozhevnikov, A. A.—215, 1138
Kozhevnikov, S. N.—770
Kozlov, L. F.—1377
Kratokhvil, S.—924
Kril', S. I.—1380
Krivilev, V. A.—554
Krivonos, Yu. G.—1196
Krushel'nitskii, I. N.—321
Krys'ko, V. A.—1281, 1373
Kubenko, V. D.—1333
Kukudzhanov, S. N.—1175
Kukushkin, V. G.—324
Kul'chitskii, L. O.—873
Kurkin, I. D.—920
Kurshin, L. M.—1092
Kutsento, G. V.—359
Kuz'ma, V. M.—1271
Kuznetsov, A. V.—201
Kuznetsov, B. E.—1138
Kuznetsov, V. N.—433

L

Larin, V. E.—1260
Lavrik, V. I.—1343
Lazaryan, V. A.—650
Lebedev, D. V.—418
Lenskii, M. F.—423
Letov, L. A.—605
Likhoded, A. I.—136
Lilvinov, V. G.—75
Litvinov, V. G.—588
Livdar, V. A.—335
Lizarev, A. D.—1304
Lobedinels, L. N.—791
Lobkova, N. A.—269
Lomakin, V. A.—1119
Luchnik, N. V.—1125
Lucyshin, R. M.—450, 873

M

Makarenkova, L. G.—446
Makarov, A. M.—70
Makarov, A. P.—1377
Makhort, F. G.—1287
Malinin, A. A.—136, 278
Mamchur, I. L.—282, 613
Manevich, A. I.—16
Manevich, L. I.—1210
Marchenko, G. A.—869
Martynyuk, A. A.—797
Mashkin, V. A.—365
Maslov, B. P.—884
Matchenko, N. M.—669
Matynovich, T. L.—628
Mazur, V. Yu.—436
Mel'nichenko, I. P.—383
Mikhalishin, M. S.—1043
Miroshnik, R. A.—542
Misak, V. V.—159
Mogilevkin, L. I.—1277
Moiseenko, A. F.—316
Moiseev, G. A.—1125
Morgulets, S. V.—511
Morozov, K. N.—1125
Mysovskaya, R. M.—293
Mysovskii, Yu. V.—293

N

Naida, A. A.—1359
Naumenko, N. E.—786
Navoyan, A. V.—677
Nazarov, G. I.—260
Nemirovskii, Yu. V.—1043
Nerubailo, B. V.—1141
Nikolenko, I. V.—104
Nosarchenko, A. M.—101
Nuchyi, S. P.—755

O

Obukhov, A. N.—537
Odinokov, V. I.—1321
Odintsov, A. A.—1131
Odnoral, L. G.—177
Oleinik, A. Ya.—1377
Oleinik, B. D.—721
Orlov, V. S.—1157
Ostrosablin, N. I.—1143
Ovchinnikova, V. G.—1125
Ozerov, V. I.—637

P

Pakhomov, I. I.—1083
Panasyuk, N. N.—1333
Panieleev, A. D.—588
Pastukhov, V. T.—909
Pastushikhin, V. M.—803
Pavlov, I. G.—505
Pavlovskii, M. A.—749, 917
Pedakhovskii, I. I.—327
Pelekh, B. L.—282, 613, 830
Petrenko, M. P.—566
Pik, E. M.—383
Plakhotnyi, P. I.—1238
Plevako, V. P.—593, 1191
Pochtman, Yu. M.—495
Podil'chunk, Yu. N.—8
Podol'skii, E. N.—550
Podstrigach, Ya. S.—830
Pogorodetskii, A. E.—56
Polenov, V. S.—1355
Polishchuck, T. D.—837
Polyakov, P. S.—1153
Ponomarev, B. V.—114
Popov, A. G.—221
Popovich, B. I.—622
Postol'nik, Yu. S.—50
Potapov, V. D.—532
Preobrazhenskii, I. N.—22
Prikazchikov, V. G.—305
Privarnikov, Yu. K.—321
Prokopalo, E. F.—321
Prokop'ev, V. I.—511
Protsenko, O. P.—570
Protsenko, V. G.—781
Protsenko, V. S.—192, 781
Ptakhin, E. A.—842
Puchka, G. N.—570

Puchkov, A. A.—260
Pudoveev, A.—1129
Pungar, É. T.—711
Putyata, T. B.—345
Putyata, T. V.—1258
Putyata, V. I.—201
Putyatin, V. V.—546
Pyatetskii, V. A.—104
Pytel, L. P.—324

R

Rabinovich, B. I.—37
Rabkin, M. A.—310
Raichenko, L. M.—1225
Rakhmatulin, Kh. A.—812
Ramenskaya, G. P.—1149
Repetya, V. E.—1102
Roitman, A. B.—725
Roschupkin, L. D.—1, 251
Rozovskii, M. I.—42
Rushchitskii, Ya. Ya.—165, 1147, 1262
Ruzina, G. M.—1370
Ryzshkov, L. M.—749

S

Sabodash, P. F.—812
Sailov, N. S.—225
Sal'nikov, V. G.—70
Samol'yanov, I. I.—98
Sankin, Yu. N.—81
Savchenko, V. A.—561
Savin, G. N.—8, 235, 242, 580
Savin, V. G.—905, 1242
Savruk, M. P.—785
Segal, V. M.—409
Semenikhina, A. N.—339
Shablii, O. N.—617, 1043
Shapovalov, L. A.—125
Sharshukov, G. K.—1050
Shcherbina, A. A.—150
Shelestovskii, B. G.—255
Shevchenko, A. Yu.—851
Shevchenko, F. L.—759
Shevchenko, V. P.—476
Shechenko, Yu. N.—46
Shevlyakov, Yu. A.—476
Shishkanova, S. F.—725
Shmakov, V. P.—287
Shpakova, S. G.—1059
Shtin, L. T.—1119
Shtukarev, V. S.—22
Shul'ga, N. A.—388, 905
Shumik, M. A.—664
Shun, M. S.—457
Shvabyuk, V. I.—577
Shvets, R. N.—1163
Shvetsov, A. V.—721, 1216
Sidorin, Yu. V.—554
Sinarskii, E. S.—398
Sinekop, N. S.—192, 781
Sinitskin, A. P.—554
Skripka, V. I.—471
Slobodyanyuk, A. P.—60
Smirnov, N. M.—863
Sokolov, S. S.—1373
Sokolova, V. G.—327
Soroka, M. D.—550
Spiridonov, V. V.—1355
Stachnik, M. M.—443
Stepanov, A. I.—1069
Stezhko, A. V.—1362
Strel'bitskaya, A. D.—815
Suchevan, V. G.—878
Sudavtsova, G. K.—599
Suzdal'nitskii, I. D.—1092
Sverlitskii, V. A.—542
Svirid, G. P.—409

T

Tarapov, I. E.—208, 645
Tarasenko, T. I.—683
Tarasova, L. A.—683
Tarikov, G. P.—404
Teregulov, I. G.—1277
Terekhov, R. G.—46
Terent'ev, Yu. G.—764
Terrovere, V. R.—1293
Tishchenko, V. N.—476
Tkachenko, A. D.—801
Tolokonnikov, L. A.—12, 569, 1202
Trubii, V. A.—741
Tsoi, N. G.—559
Tsurkov, S. Ya.—1169
Tsvetkov, V. K.—909

U

Ugodchirov, A. G.—1216
Ulitko, A. F.—359, 471
Ul'shin, P. I.—1338
Umanskii, A. A.—347
Upadyshev, V. A.—554
Ushkalov, V. F.—114

V

Valeev, K. G.—159, 1069
Van Fo Fy, G. A.—235
Varvak, M. Sh.—1186
Vasilenko, A. T.—837
Vekovishcheva, I. A.—66, 1308
Vinogradov, A. I.—583
Virkus, Kh. M.—8
Vlasov, —95
Volkova, N. N.—869
Volodin, G. T.—12
Vorob'ev, N. M.—1125
Vorontsov, G. V.—316

Y

Yarosh, V. V.—413
Yukova, G. S.—1149

Z

Zaika, P. M.—550
Zakhorov, M. N.—1234
Zakrzhevskii, A. E.—521, 1260
Zalesskii, V. K.—218
Zarutskii, V. A.—1153
Zavrazhina, N. M.—1206
Zevin, A. A.—265
Zhenishek, A.—924
Zhirnov, B. M.—1109
Zhirov, V. S.—920
Zhuk, N. P.—617
Zil'bergleit, A. S.—730

SOVIET APPLIED MECHANICS
Volume 9, Numbers 1-12, 1973

(A translation of Prikladnaya Mekhanika)

Volume 9, Number 1 January, 1973

	Engl./Russ.	
The Equations of Dynamics (Review) – B. N. Fradlin and L. D. Roshchupkin	1	3
Stressed State of Thermoelastic Spheroidal Inclusion Sealed in Thermoelastic Medium – G. N. Savin, Yu. N. Podil'chuk, and Kh. M. Virkus	8	10
On the Calculation of a Point Explosion in Various Active Media – L. A. Tolokonnikov and G. T. Volodin	12	15
Stability and Weight Optimization of Reinforced Spherical Shells under External Pressure – A. I. Manevich and M. E. Kaganov	16	20
Experimental Investigation of the Stability of Shells with Cutouts – Yu. L. Golda, I. N. Preobrazhenskii, and V. S. Shtukarev	22	27
Calculation of Nonsloping Thin Spherical Shells Subjected to Wind Pressure – Yu. V. Borzin and A. N. Gots	26	33
Oscillations of Elastic Lid and Bottom of a Cylindrical Tank Filled by an Elastic Medium – O. A. Egorychev	32	40
Frequencies and Apparent Masses of a Liquid in a Cavity Formed by Eccentric Cylinders – L. V. Dokuchaev and B. I. Rabinovich	37	46
On a Nonlinear Integral Equation for a Time-Dependent Circular Hardening Zone – N. N. Dolinina and M. I. Rozovskii	42	52
Experimental Verification of the Applicability of the Theory of Small Elastoplastic Deformations to the Calculation of Rotating Disks – Yu. N. Shevchenko, R. G. Terekhov, and A. I. Borisyuk	46	57
Approximate Calculation of Thermoelastic Stresses in an Arbitrarily Heated Plate – V. M. Guba and Yu. S. Postol'nik	50	61
Bending of Rectangular Plates of Stepwise Variable Thickness – A. É. Pogorodetskii	56	68
The Indentation of Two Punches into a Nonhomogeneous Half-Space – A. P. Slobodyanyuk	60	73
Polynomial Solutions of the Plane Problem in the Theory of Electroelasticity – I. A. Vekovishcheva	66	80
On the Theory of Nonstationary Flows of a Viscoplastic Medium in a Two-Dimensional Channel – A. M. Makarov and V. G. Sal'nikov	70	85
Estimate of Error of Approximate Solutions of Problems of Motion of Nonlinear-Viscous Liquids and Torsion of Inelastic Rods – V. G. Litvinov	75	91
Method of Small Parameter Proportional to Forces of Friction in Forced Oscillations of Complex Rod System – Yu. N. Sankin	81	99
Response of a Mechanical System to a Random Disturbance – E. T. Grigor'ev and V. I. Gronskii	86	105
Toward Construction of a Model of Two-Liquid System with Nonsymmetric Stress Tensors – R. G. Isaev	90	110
BRIEF COMMUNICATIONS		
Stability of Cylindrical Shells Containing a Filler on Being Subjected to Axial Compression and External Pressure – V. V. Vlasov	95	117
The Stability of a Shell of Hyperbolic Paraboloid Type under Compression along the Rectilinear Generators – I. I. Samol'yanov	98	121

Engl./Russ.

Experimental Investigation of Damping of Oscillations of Shells with Aperture – A. A. Bondarenko and A. M. Nosachenko 101 124
A Dynamical Problem for Nonholonomic Systems Subject to Random Perturbations – I. V. Nikolenko, V. A. Pyatetskii, and I. I. Khil'kevich. 104 127
Experimental Investigation of Waves of Oscillations of Road Surfaces during Motion of Automobiles – A. V. Smirnov and A. G. Malofeev 107 129

CHRONICLES
Thirteenth International Congress on Theoretical and Applied Mechanics (Moscow, August 21-26, 1972) – A. D. Kovalenko and V. T. Grinchenko 111 135
Scientific Conference on "Problems in the Mechanics of High-Speed Rail Transportation" (Dnepropetrovsk, May 17-19, 1972) – V. F. Ushkalov and B. V. Ponomarev 114 138

Volume 9, Number 2 February, 1973

Calculation of the Stress–Strain State of a Toroidal Shell with Holes – S. P. Gavelya. . . 117 3
Castigliano Variational Equation and Continuity Conditions for Deformation of a Thin Shell – L. A. Shapovalov. 125 12
Carrying Capacity of Reinforced Concrete Ribbed Shells under an Unsymmetrical Load – A. M. Dubinskii and A. G. Isaenko 130 18
On Approximate Dependences for the Vibration Frequencies of Smooth Cylindrical Shells and Cylindrical Shells with Lumped Inclusions – A. I. Likhoded and A. A. Malinin 136 25
Differential Equations of the Thermoelastic State of Shells under Thermal Impact on the Surface – E. A. Gotsulyak, V. I. Gulyaev, and V. K. Chibiryakov 142 32
Stability and Nonlinear Oscillations of a Helicopter – R. F. Ganiev and A. A. Shcherbina 150 42
Vibrations of Nonlinear Systems – K. G. Valeev and V. V. Misak 159 53
On a Method for Studying the Properties of a Generalized Solution in the Theory of Composite Media – Ya. Ya. Rushchitskii 165 60
Propagation of Vibrations from a Source of Localized Pulse Type in an Anisotropic Medium – V. S. Budaev 171 67
Flexure of a Circular Nonlinearly Elastic Plate by a Concentrated Force – L. G. Odnoral. 177 74
Selection of Optimal Parameters of Three-Layered Plates Compressed in One Direction – I. N. Ginzburg and A. E. Khodova. 182 80
On the Limits of the Fundamental Frequency of a Rod Carrying a Concentrated Mass – V. B. Grinev and A. P. Filippov. 187 85
Calculation of an Infinite Beam on an Elastic Foundation in a Nonclassical Formulation – V. S. Protsenko and N. S. Sinekop 192 91
Some Problems Relating to the Optimization of Mechanical Assemblies with Electrical Drives, Subject to Random Vibrations – D. A. Kaminskaya and A. G. Grinchenko 196 95
Potential Flow of a Nonviscous Incompressible Liquid around a Profile, in the Presence of Rectilinear Boundaries – V. I. Putyata and A. V. Kuznetsov 201 101
Motion of a Conducting Gas with Variable Properties between Rotating Cylinders – I. E. Tarapov 208 109

BRIEF COMMUNICATIONS
Stability Investigation of Shallow Conical Shells – A. D. Borodanov, B. Ya. Kavalerchik, and A. A. Kozhevnikov. 215 117
One-Dimensional Membrane Problem for a Thin Variable Thickness Elastic Shell – V. K. Zalesskii. 218 120
Influence of Rotational Inertia on the Natural Vibrations Frequency Spectrum of a Cylindrical Shell – A. G. Popov 221 124
Investigation of Brittle Fracture near a Stress Raiser – N. S. Sailov 225 128

	Eng./Russ.	
Stability of Long Cables in a Flow of Viscous Liquid – D. A. Derbentsev and G. N. Puchka	229	133
BOOK REVIEWS		
A. N. Guz'. The Stability of Three-Dimensional Deformable Bodies – Reviewed by D. D. Ivlev	233	138
A. K. Malmeister, V. P. Tamuzh, and G. A. Teters. The Resistance of Rigid Polymer Materials (Second Edition) – Reviewed by G. N. Savin, G. A. Van Fo Fy, and V. G. Bessonov	235	139

Volume 9, Number 3 March, 1973

Origin of Convection in Horizontal Layers of a Non-Newtonian Fluid – F. A. Garifullin	237	3
A New Method of Solving Some Discrete Problems of Mechanics – V. A. Bobin and G. N. Savin	242	10
On the Dolapchiev–Manzheron–Tsenov Equations in the Case of Natural Systems – B. N. Fradlin and L. D. Roshchupkin	251	21
Pressure of a Hot Annular Stamp in a Transversally Isotropic Half-Space with Heat Transfer at the Boundary – D. V. Grilitskii and B. G. Shelestovskii	255	26
The Problem of the Torsion of an Inhomogeneous Body of Revolution with Variable Shear Moduli – G. I. Nazarov and A. A. Puchkov	260	32
Stresses and Deformations of a Nonhomogeneous Hereditary Medium – A. A. Zevin	265	38
Axisymmetric and Antisymmetric Stresses and Strains in Shells of Revolution with a Meridian Slit – L. A. Il'in and N. A. Lobkova	269	43
Deformation of a Multilayered Shell of Rotation as a Result of Nonisothermal Loading – V. S. Bondar' and V. P. Korobov	273	49
Modes of a Shell of Rotation of Variable Thickness with Attached Masses – A. A. Malinin	278	56
Solving Equations in the Theory of Transversely Isotropic Shells of Revolution in Complex Form – B. L. Pelekh and I. L. Mamchur	282	61
Forced Oscillations of Liquid-Filled Elastic Shells of Revolution – A. D. Brusilovskii and V. P. Shmakov	287	68
Stress Concentration in Plates with Holes Having Large Curvatures at Corner Points – A. S. Kosmodamianskii, R. M. Mysovskaya, and Yu. V. Mysovskii	293	76
On Convergence of Expansions in a Parameter in Geometrically Nonlinear Problems – Ya. F. Kayuk	299	83
Estimation of the Eigenvalues of a Difference Problem Relating to a Plate – V. G. Prikazchikov	305	90
Combined Flexural–Torsional Vibrations of Multidisk Rotors – M. A. Rabkin	310	96
Computer Solution of Boundary Problems for Branched Spatial Rod Systems – G. V. Vorontsov and A. F. Moiseenko	316	103
BRIEF COMMUNICATIONS		
Influence of Previous Dynamic Loading on the Load-Carrying Capacity of Cylindrical Shells – L. V. Andreev, I. N. Krushel'nitskii, Yu. K. Privarnikov and E. F. Prokopalo	321	110
On the Stress Concentration near a Cutout on the Surface of an Orthotropic Cylindrical Shell – L. P. Pytel' and V. G. Kukushkin	324	114
Controlling the Stress Concentration with an Elastic Insert – I. I. Pedakhovskii and V. G. Sokolova	327	117
Investigation of Diaphragms of Multi-Wave Shells – L. A. Korobov and Yu. V. Chinenkov	331	122

	Engl.	Russ.
Calculation of the Flexure of a Clamped Infinite Strip with a Prestressed Stiffening Rib along the Edge – A. A. Galasi and V. A. Livdar	335	126
An Elastic-Plastic Problem for an Isotropic Solid Weakened by Two Circular Excavations – G. M. Ivanov and A. N. Semenikhina	339	131
Optimization of Elastic Statically Indeterminate Frames – V. N. Demokritov	342	133
BOOK REVIEWS		
L. A. Pars. Analytical Dynamics – Reviewed by T. B. Putyata and B. N. Fradlin	345	137
OBITUARY		
Aleksandr Azar'evich Umanskii	347	139

Volume 9, Number 4 April, 1973

	Engl.	Russ.
Stability of a Shell Weakened by Holes (Review) — Yu. A. Ashmarin and A. N. Guz'	349	3
Elastic Equilibrium of an Ellipsoid under the Influence of Concentrated Forces — G. V. Kutsenko and A. F. Ulitko	359	16
Torsion of a Cylindrical Shaft with a Semicircular Annular Groove — V. A. Mashkin	365	23
On the Stability of a Fiber in a Matrix under Small Deformations — I. Yu. Babich	370	29
On the Propagation of Visco-Elastic Waves of Finite Amplitude — V. G. Karnaukhov	376	36
Quaternion Equations and Hypercomplex Potentials in the Mechanics of a Continuous Medium — I. P. Mel'nichenko and E. M. Pik	383	45
The Antiplane Deformation of a Halfspace with Piecewise Constant Periodic Characteristics — N. A. Shul'ga	388	51
An Approximation Method, Based on the Use of Hydrodynamic Analogy — A. S. Kosmodamianskii, L. E. Kats and Ya. A. Barg	393	57
Bending of a Plate on an Elastic Base, Aging in a Hereditary Manner — O. V. Bugrim and E. S. Sinaiskii	398	63
Solution of Some Contact Problems by Electrical Simulation — G. P. Tarikov	404	70
Investigation of the Stationary Flow of a Rigid Plastic Material by the Numerical Finite Elements Method — V. M. Segal and G. P. Svirid	409	76
Inertial Motion of a Ring of Plastic Material Subjected to a Pulse Load — V. P. Alekseevskii, A. K. Biletskii, N. A. Fot, and V. V. Yarosh	413	81
Dynamics of the Angular Motions of a Nonsymmetric Solid during Orientation — D. V. Lebedev	418	87
System of Differential Equations for a Spatial Kinematic Pair with Holonomic Coupling — M. F. Lenskii	423	93
The Improvement of Mechanical Systems — B. E. Gorskii	427	97
Nonstationary One-Dimensional Flow of Viscous Fluid in a Deformable Pipe — V. S. Gubenko, P. Kh. Derkach, and V. N. Kuznetsov	433	104
Solutions of Plane Wave Problems in Simply Connected Domains of an Ideal Liquid — V. Yu. Mazur	436	108
BRIEF COMMUNICATIONS		
On the Fracture of a Three-Dimensional Brittle Body, Weakened by an Internal Plane Crack — M. M. Stadnik	443	117
Nonstationary Temperature Distributions for Domains Bounded by Eccentric Circles — L. G. Makarenkova	446	120
Effect of Friction Forces on the Stress State of an Elastic Plane with Circular Pressing — R. M. Lutsyshin	450	124
Stress Distribution around a Circular Hole in a Plane of a Stochastically Nonuniform Material — V. I. Lavrenyuk	453	128
The Stresses in a Curved Beam of Trapezoidal Cross Section — B. S. Koval'skii and M. S. Shun	457	133
Investigation of the Influence of a Laminar Semi-Bounded Jet, Injection and Suction on the Local Coefficient of Surface Friction — A. P. Girol'	460	135

	Engl.	Russ.
Remark on the Paper by A. N. Guz', "Three-Dimensional Stability Theory for Finite Subcritical Deformation," Prikladnaya Mekhanika, 8, No. 12 (1972) – A. N. Guz' . .	463	139

Volume 9, Number 5 May, 1973

Dynamic Contact Problem in the Case of Longitudinal Shear Deformation (Strain) – N. M. Borodachev.	465	3
Equilibrium of Vertex-Loaded Elastic Paraboloid of Rotation – V. I. Skripka and A. F. Ulitko	471	10
Contact Problem for a Circular Cylindrical Shell – T. S. Akul'shina, V. N. Tishchenko, V. P. Shevchenko, and Yu. A. Shevlyakov	476	16
The Contact of a Spherical Shell with a Rigid Punch in the Presence of Adhesion – V. M. Grigorovich	483	24
Stressed and Strained State of Braced Sloping Shells Rectangular in Plan – V. N. Khitrov.	489	31
Random-Search Optimization of the Parameters of Reinforced Cylindrical Shells – Yu. M. Pochtman and G. V. Filatov.	495	38
Theory of Smooth Shells – Ya. F. Khlebnoi	500	44
The Theory of Ground Resonance of Helicopters – R. F. Ganiev and I. G. Pavlov	505	50
Forced Oscillations of a Cylindrical Shell as a Result of Pressure Oscillations of a Gas – V. I. Prokop'ev and S. V. Morgulets	511	57
Oscillations of a Rotating Rigid Body with a Cavity Partially Filled with a Viscous Liquid – I. M. Daich and I. L. Bar	516	64
Synthesis of Optimal Control of Lengthwise Motion of an Elastic Reservoir Containing Liquid – A. E. Zakrzhevskii	521	70
Variational Equations for Structurally Anisotropic Plates – L. V. Endzhievskii and N. P. Abovskii.	527	77
Stability of Nonlinear-Elastic Plates in the Presence of Random Initial Stresses – V. D. Potapov	532	83
Transverse Vibrations of an Elastic "Mine Elevator–Cable" System – N. G. Garkusha, L. V. Kolosov, and A. N. Obukhov	537	89
Critical Velocities of the Steady-State Motion of an Elastic Fiber in a Plane Homogeneous Flow – V. A. Svetlitskii and R. A. Miroshnik.	542	94
On Solution of Correlation Differential Equations for Mechanical Systems – V. V. Putyatin	546	99
Determination of Parameters of a Beam of Least Weight in Dynamic Regime – P. M. Zaika, E. N. Podol'skii, M. D. Soroka, and T. I. Kazatskaya	550	104
Stresses Generated by Electromagnetic Radiation in Cylinders – A. P. Sinitsin, V. A. Krivilev, Yu. V. Sidorin, and V. A. Upadyshev	554	109
BRIEF COMMUNICATIONS		
Experimental Investigation of the Strength and Deformability of Glass-Fiber-Reinforced Plastic Shells Made in Vacuum – N. G. Tsoi and G. E. Freger.	559	115
On the Calculation of Cylindrical Shells of a Variable Thickness – E. V. Binkevich and V. A. Savchenko.	561	117
Dynamic Stability of Rotating Disks Loaded by a Concentrated Force – M. P. Petrenko and I. I. Sokolovskaya.	566	123
Natural Vibrations of a Thick-Walled Cylinder Containing a Compressible Fluid – O. P. Protsenko and G. N. Puchka.	570	127
Stress Concentrations at the Bottom of a Longitudinal Circular Groove in a Round Shaft in Torsion – G. N. Dubner	574	132
On a Mixed Problem of Flexure of Thin Plates – V. I. Shvabyuk	577	134
BOOK REVIEWS		
S. P. Timoshenko. A Course in the Theory of Elasticity – Reviewed by G. N. Savin	580	138

Volume 9, Number 6 June, 1973

Lagrangian Relations in the Theory of Basis Systems – A. I. Vinogradov 583 3
The Method of Orthogonal Projections for Three-Dimensional Elasticity Theory Problems – V. G. Litvinov and A. D. Panteleev 588 9
The Deformation of a Nonhomogeneous Half-Space under the Action of a Surface Load – V. P. Plevako 593 16
Shells of Revolution of the Spherical Class with Local Loads at a Pole – Ya. M. Grigorenko and G. K. Sudavtsova 599 24
Geometrically Nonlinear Axially Symmetric Deformation of Toroidal Shells – É. L. Aksel'rad and L. A. Letov 605 31
Contact Problem for a Transversally Isotropic Cylindrical Shell with a Finite Length – B. L. Pelekh and I. L. Mamchur 613 41
Limiting Equilibrium of a Circular Plate Allowing for Shear Stress – N. P. Zhuk and O. N. Shablii 617 47
Thermoelastic State of an Anisotropic Plate with a Circular Aperture for Mixed Boundary Conditions – B. I. Popovich and D. V. Grilitskii 622 54
A Method of Determining the Stress State in Anisotropic Plates with a Nonsymmetrically Reinforced Edge – T. L. Martynovich and V. V. Bozhidarnik 628 61
Approximate Method of Determining the Natural Frequencies of Flexible Rectangular Plates – N. K. Alekseeva 633 68
On the Problems of Predicting the Strength of a Unidirectional Glass Reinforced Plastic under Transverse Tension and Shear – G. V. Bilida and V. I. Ozerov 637 73
Optimal Control of Linear Systems in the Case of Continuous and Discrete Observations – V. B. Kolmanovskii 641 78
On the Hydrodynamic Lubrication Theory of a Bearing with a Bush – I. M. Al-Nasan and I. E. Tarapov 645 83
Longitudinal Vibrations of Nonlinear One-Dimensional Systems in the Case of Disturbances Propagating Along Their Lengths – V. A. Lazaryan, E. P. Blokhin, and L. V. Belik 650 89
Oscillations of Combined Arched Systems for Uniform Motion of Load in the Form of a Halfzone – I. A. Kolesnik 654 95

BRIEF COMMUNICATIONS

Pressure Exerted by a System of Four Stamps on an Elastic Halfspace – A. E. Andreikiv and S. A. Bubetskii 659 102
Limiting Equilibrium of Reinforced Cylindrical Shells – V. A. Antipov 661 104
Stability of Truncated Conical Shells under the Action of a Dynamic External Pressure – M. A. Shumik 664 107
Determination of Stress Concentration for Biaxial Extension of a Plate Weakened by a Hole of Random Shape – A. A. Kaminskii 666 109
Theory of Plane Plastic Flow of Orthotropic Materials – L. A. Tolokonnikov and N. M. Matchenko 669 113
Contact Problem for a Plane with a Linear Cut – L. T. Boiko 672 116
On Stability of a Horizontal Excavation in the Case of All-Sided Compression – A. V. Navoyan 677 121

BOOK REVIEWS

P. P. Teodorescu. Dynamics of Linearly Elastic Bodies – Reviewed by N. P. Fleishman .. 681 125

CHRONICLES

Theses on Mechanics Defended by Workers of the Institutes of the Academy of Sciences of the Ukrainian SSR during 1972 – Reviewed by L. A. Tarasova and T. I. Tarasenko 683 127

Volume 9, Number 7 July, 1973

Interaction of Self-Excited Vibrations in Mechanical Vibrating Systems – V. O. Kononenko and P. S. Koval'chuk	699	3
Diffraction of Waves at Finite Bodies of Revolution – A. N. Guz'	704	10
Direct Design of a Cylindrical Sandwich Shell – É. T. Pungar	711	19
The Effect of the Structure of the Material of a Cylindrical Sandwich Shell on the Natural Frequencies – V. V. Emel'yanenko	716	25
On Stress Concentration in Pipes with a Hole of Star-Shaped Profile – B. D. Oleinik, A. V. Shvetsov, and Yu. A. Ignat'ev	721	31
The Solution of the Annular Punch Problem with the Aid of Recursion Relations – A. B. Roitman and S. F. Shishkanova	725	37
A Dynamic Coupled Thermoelastic Problem for a Planar Layer – A. S. Zil'bergleit	730	43
On the Limiting State of Equilibrium of a Plate Weakened by Two Arbitrarily-Oriented Cracks – M. P. Savruk and A. P. Datsyshin	735	49
Elastic–Plastic State of a Square Wall Beam – V. A. Trubii	741	56
Optimal Performance Synthesis for Motors in Multidrive Systems – E. G. Goloskokov and N. F. Kirkach	745	62
The Effect of Clearances on the Behavior of a Gyroscope in the Case of Foundation Vibration – M. A. Pavlovskii and L. M. Ryzhkov	749	66
Determination of the Pressure on a Support with Limited Compliance – I. P. Nudnyi	755	74
Approximate Calculation of Drums of Lifting and Transport Machines with Plate End Faces – F. L. Shevchenko	759	78
A Problem of Damping in Rectilinear Motion of a System – Yu. G. Terent'ev	764	84
Elastic Interaction of Colliding Bars with Damped Mountings – S. N. Kozhevnikov and N. M. Dolgov	770	91
Application of a Variant of the Generalized Galerkin Method to Certain Eigenvalue Problems – Yu. K. Lavrov	776	98
On the Calculation of Two Infinite Beams on Elastic Foundation – V. G. Protsenko, V. S. Protsenko, and N. S. Sinekop	781	104
The Dynamic Forces in Longitudinal Vibration of an Inhomogeneous Rod with Localized Inclusions – S. I. Konashenko and N. E. Naumenko	786	109
Choice of Cross Sections for Nonarticulated Reinforced-Concrete Arches by Reference to the Limiting State – L. N. Lebedinets	791	115
BRIEF COMMUNICATIONS		
Qualitative Research on the Behavior of Weakly Coupled Oscillators near the Equilibrium Configuration – A. A. Martynyuk	797	122
Reduction of the Problem of Determining the Orientation of a Solid Body to a Riccati Equation – A. I. Tkachenko	801	126
Vibrations of Plates Made of Nonlinear, Not Entirely Elastic Materials – V. N. Pastushikhin	803	128
Vibrations of a Circular Plate Simply Supported on a Rigid Base and Clamped at the Center – V. P. Babii	806	131
Comparison of Methods of Calculating Estimates for the Spectral Density – E. T. Grigor'ev, V. I. Gronskii, and M. G. Koporulina	808	133
BOOK REVIEWS		
A. N. Guz' and V. T. Golovchan. Diffraction of Elastic Waves in Multiply Connected Bodies – Reviewed by Kh. A. Rakhmatulin and P. F. Sabodash	812	138

Volume 9, Number 8 August, 1973

Elastic–Plastic Strains and the Carrying Capacity of Shallow Shells (Survey) – A. I. Strel'bitskaya	815	3

	Engl.	Russ.
Calculation of an Orthotropic Shell Elastic in Shear with Residual Stresses – Ya. S. Podstrigach, B. L. Pelekh, and V. K. Ganulich	830	22
Strain in a Shell with a Circular Axis and Variable Parameters in a Cross Section – A. T. Vasilenko, Yu. M. Grigorenko, and T. I. Polishchuk	837	31
Stability of Cylindrical Shells beyond the Elastic Limit – L. V. Andreev, L. T. Khmelovskii, G. P. Bogatyr', and E. A. Ptakhin	842	38
The Critical Pressure and Vibration Frequency for a Cylindrical Shell with Edges Elastically Restrained in the Axial Direction – É. V. Antonenko	847	45
Elastoplastic Stress State of a Long Thin-Walled Cylinder under the Influence of a Magnetic Field – A. Yu. Shevchenko	851	50
Influence of the Geometrical Form of Structures on Their Load-Carrying Capacity – V. N. Bastun	857	57
Influence of Nonuniform Heating of the Stability of Plates beyond the Elastic Limit – V. F. Gribanov and N. M. Smirnov	863	64
Using R-Functions in the Calculation of Dynamic Stability of Plates with a Complex Form in Plan View – N. N. Volkova and G. A. Marchenko	869	72
Flexure of a Strip with an Arcuate Crack – R. M. Lutsyshin and L. O. Kul'chitskii	873	76
Use of a System of Functions for the Solution of a Problem Involving an Elastic Halfstrip – V. G. Suchevan	878	83
Nonlinear Elastic Properties of Randomly Heterogeneous Media – B. P. Maslov	884	91
Vibrations of a Rotating Rigid Body with a Cavity Partly Filled with an Arbitrary Viscous Liquid – I. M. Daich and L. S. Kazhdan	888	96
On the Motion of a Two-Component Stratified Gas–Liquid Flow in a Horizontal Pipe – A. Sh. Asaturyan, Ch. S. Guseinov, L. K. Kostyuk, and O. V. Chechenkina	892	101
Pure Torsion of Prismatic Bars Composed of Different Materials – I. V. Goncharyuk	896	106
BRIEF COMMUNICATIONS		
Pressure of a Circular Punch on an Elastic Layer in the Presences of Tangential Forces in the Contact Zone – Ya. M. Kizyma	901	112
Reflection of a Plane SH-Wave from a Half-Space with Piecewise Constant Periodic Characteristics – V. G. Savin and N. A. Shul'ga	905	116
Equilibrium of a Half-Plane Having Weight with a Curvilinear Boundary Subject to a Uniform Pressure – V. K. Tsvetkov and V. T. Pastukhov	909	121
Temperature Stresses in a Partially Clamped Orthotropic Plate – A. D. Khanzhov	913	125
On the Influence of Damping on the Systematic Errors of Pendulums with Biaxial Swinging – M. A. Pavlovskii and V. S. Evgen'ev	917	129
The Stationary Contour of the Motion of a Filament – V. S. Zhivov and V. I. Kurkin	920	133
BOOK REVIEWS		
R. Masopust. Calculation of Plane and Three-Dimensional Constructions Using the Method of Finite Elements – Reviewed by V. Kolarzh, I. Kratokhvil, F. Leitner, and A. Zhenishek	924	138

Volume 9, Number 9 September, 1973

Wave Propagation and Diffraction in Bodies with Noncircular Cylindrical Boundaries – A. N. Guz'	927	3
Weak Longitudinal Waves in a Nonlinear Viscoelastic Medium – Yu. M. Blitshtein, A. E. Limarev, and S. I. Meshkov	934	12
Use of a Solution of the Papkovich–Neiber Type in the Theory of a Mixture of Two Elastic Solids – Ya. Ya. Rushchitskii	938	17
Complex Elasticoplastic Torsion of Cylindrical Shafts – Yu. V. Nemirovskii and É. É. Saks	943	24
Stressed State of a Body of Revolution – I. D. Legenya	949	31
The Stability of a Biaxial Gyroframe on a Vibrating Base under Resonance Conditions – R. F. Ganiev and A. I. Lyutyi	954	36

	Engl.	Russ.
Dynamics of Rotational Motions of a System of Solid Bodies around the Center of Mass with Variable Geometry of the Mass – V. A. Grobov and D. V. Lebedev	962	46
Criterion of Stability in Creep – V. D. Potapov	966	51
Practical Realization of the Perturbation Method in Inhomogeneous Boundary-Value Problems of Thermoviscoelasticity – V. G. Gromov and V. S. Orlov	972	58
Recursion Relations for the Perturbation Method in Three-Dimensional Elasticity Problems – Yu. N. Nemish	977	64
Experimental Verification of the Load-Carrying Capacity of Smooth Glass-Fiber Shells under the Influence of External Hydrostatic Pressure – A. A. Kritsuk, O. A. Goroshko, L. M. Bobko, V. S. Bochkovskii, and N. A. Bondarenko	983	71
Numerical Calculation of Freely Supported Shells with an Arbitrary Cross Section – V. A. Rodionova	987	76
Investigation of the Stressed State around a Reinforced Opening in an Orthotropic Cylindrical Shell – V. I. Ozerov	992	82
Determination of the Temperature Fields and the Stresses in a Bimetallic Layer with Induction Heating – Ya. I. Burak, A. R. Gachkevich, and B. I. Kolodii	996	87
Temperature Stresses in Heated Orthotropic Plates with a Variable Heat-Transfer Coefficient – V. I. Gromovyk	1002	94
On the Solution of Boundary Value Problems of Thermoviscoelasticity with the Action of Body Forces Having a Potential Taken into Account – É. L. Tochilin and T. A. Topchieva	1006	99
Convergence of the Method of Successive Approximations in Geometrically Nonlinear Problems – Ya. F. Kayuk	1010	104
Analysis of the Perturbed Motion of a Solid Body with Cavities Partially Filled with Liquid – G. L. Madatov and S. S. Chernyavskaya	1016	112
Spherical–Radial Filtration of a Liquid and a Gas with Withdrawal at a Variable Rate – V. A. Isyakaev and G. D. Likhovol	1021	118
BRIEF COMMUNICATIONS		
Some Exact Solutions of Problems about Finite Deformations of an Elastic Wedge – R. V. Chernyshova and A. D. Chernyshov	1026	123
Vibrations of a Tristable Gyroscope in Transition through Resonance – V. A. Karelin	1030	126
Motion of a Nonholonomically Constrained Rigid Body about a Fixed Point – S. M. Matveenko	1034	131
Determination of the Deformed State of an Elasticoplastic Thick Plate with an Elliptical Opening – V. V. Kuznetsov	1036	133
BOOK REVIEWS		
A. S. Vol'mir. Nonlinear Dynamics of Plates and Shells — Reviewed by N. A. Nil'chevskii and O. P. Protsenko	1039	138

Volume 9, Number 10 October, 1973

Ultimate State of Structures Made of Materials Characterized by Dissimilar Tensile and Compressive Yield Points – Yu. V. Nemirovskii, O. N. Shabili, and M. S. Mikhalishin	1043	3
Stress State of a Spherical Shell with a Hole during Repeated Static Elastoplastic Deformation – I. S. Chernyshenko and G. K. Sharshukov	1050	12
Study of the Elastoplastic State of Stress in a Cylindrical Shell Containing a Circular Aperture – R. Yu. Kerimov	1055	18
Asymmetric Vibrations of Spherical Shells – V. S. Martynenko and S. G. Shpakova	1059	23
Oscillations and Stability of Perforated Shells of Rotation with Discrete Inclusions – A. A. Malinin	1064	29
Circular Rayleigh Surface Waves in an Inhomogeneous Elastic Medium – K. G. Valeev and A. I. Stepanov	1069	35

	Engl.	Russ.
Thermoelastic Stresses in a Multilayer Cylinder during Heat Transfer Depending on the Pressure at the Contact Surface – O. A. Klikovskaya	1074	40
Experimental Investigation of the Stressed State and Stability of Heated Cylindrical Shells of Variable Thickness – E. B. Brazhnikov, V. I. Vorotnikov, V. V. Ershov, and V. V. Novikovich	1080	47
Method of Optimum Quadratic Approximations in Thick-Plate Theory – I. I. Pakhomov	1083	51
Calculation of Sandwich Plates by Elastic Transverse Impact – V. E. Gritsyuk	1087	56
Stresses in a Plane with a Filled Crack – L. M. Kurshin and I. D. Suzdal'nitskii	1092	62
Stability "in the Mean" of Forced Oscillations of a Gyroscopic System Acted on by Random Forces of Friction – E. Ya. Gordon	1098	69
Computer Solutions of Certain Transverse Vibration Problems – S. I. Konashenko and V. E. Repetya	1102	74
Self-Excited Vibrations of a Mechanical System with Two Degrees of Freedom and Delay – B. M. Zhirnov	1109	83
Investigation of the Spatial Vibrations of a Controlled Satellite – A. I. Makarenko	1113	88
Application of the Betti Reciprocity Theorem in the Elasticity Theory of Inhomogeneous Bodies – V. A. Lomakin	1119	96
Modification of the Ritz Method for Numerical Solution of Hydrodynamics Boundary-Value Problems – N. M. Vorob'ev and G. A. Moiseev	1125	103
On Reducing the Errors of Gyrostabilizers Associated with Cross Couplings – A. A. Odintsov and V. V. Karachun	1131	111
BRIEF COMMUNICATIONS		
Optimum Design of Reinforced Spherical Shells – B. Ya. Kavalerchik, A. A. Kozhevnikov, and B. E. Kuznetsov	1138	119
Investigation of Stresses in a Hollow Cylinder near Rigid Force Elements – S. D. Ivanov, B. V. Nerubailo, and I. I. Fedik	1141	122
Elastoplastic Stress Distribution in a Plane Weakened by a Finite Number of Circular Apertures – N. I. Ostrosablin	1143	124
Applicability of the Volterra Principle in Linear Viscoelasticity – Ya. Ya. Rushchitskii	1147	128
Determination of the Heating Effect of Deformation at Elevated Temperatures – I. I. Ishchenko, V. Ya. Bash, I. A. Malinovskaya, and A. I. Kuyun	1149	131

Volume 9, Number 11 November, 1973

Experimental Investigations of the Deformation Process of Cylindrical Shells by Axial Compression — I. Ya. Amiro, V. A. Zarutskii, and P. S. Polyakov	1153	3
Thermal Stresses in a Nonuniform Viscoelastic Sphere — V. G. Gromov and V. S. Orlov	1157	8
Thermoelastic Vibrations of Orthotropic Cylindrical Shells — R. N. Shvets and V. M. Flyachok	1163	15
Axisymmetric Contact of Thin Cylindrical Shells — M. V. Blokh and S. Ya. Tsurkov	1169	23
The Effect of Tangential Boundary Conditions on the Natural Vibrations of a Prestressed Cylindrical Shell — S. N. Kukudzhanov	1175	29
The Finite Element Method Applied to the Calculation of Cylindrical Shells with Rectangular Holes — M. I. Dlugach and N. V. Koval'chuk	1180	35
Synthesis of an Optimal Surface of a Rigid-Plastic Shell of Revolution as a Problem of Random Search — A. S. Dekhtyar and M. Sh. Varvak	1186	42
A Problem Concerned with the Action of Shear Forces Applied to the Surface of an Inhomogeneous Half-Space — V. P. Plevako	1191	49
A Study of Longitudinal Waves in a Plate on the Basis of Refined Theories I. T. Selezov and Yu. G. Krivonos	1196	56
Impact of a Rigid Mass onto an Elasto-Visco-Plastic Rod — N. I. Anisimov and L. A. Tolokonnikov	1202	64

	Engl./Russ.	
On the Rotational Motions of a Free Body about Nonprincipal Axes of Inertia in a Newtonian Gravitational Field — V. A. Grobov and N. M. Zavrazhina	1206	69
Resonant Modes in Nonlinear Systems with Two Degrees of Freedom — L. I. Manevich and B. P. Cherevatskii	1210	74
New Method for Transfer of Points outside the Contour in Conformal Mapping — A. G. Ugodchikov, A. V. Shvetsov, and V. A. Botov	1216	81
Construction of Kochin Functions with the Motion of a Disk near a Free Surface — V. I. Borisenko	1220	85
The Problem of the Influx of Liquid to a Perfect Well in a Layer of Fissured-Porous Rock in the Presence of an End-Face Zone — L. M. Raichenko	1225	91
Generalization of Flows with the Withdrawal of Liquid from the Stream — A. P. Pudoveev	1229	96
Problems in the Mechanics of Soils with Complex Loading — M. N. Zakharov	1234	102
Stress Distribution in a Viscoelastic Cylinder with the Sudden Application of a Variable Load — P. I. Plakhotnyi	1238	107
Distribution of the Stresses and the Displacement in a Surface Love Wave in a Layered Half-Space — V. G. Savin	1242	111
Contact Interaction between a Spherical Reservoir and an Absolutely Rigid Lodgement — V. M. Grigorovich	1245	115
The Controllability and Stability of the Motions of a Motor-Wheel Assembly — I. I. Khil'kevich	1248	118
Taking Account of the Hysteresis of Elastic Guide Devices in Problems of the Dynamics of a Shaft Elevator — Ya. V. Chirkov	1251	122
The Calculation of Pistonless Hydroshock Devices — S. I. Fishgal	1254	125
BOOK REVIEWS		
N. A. Kil'chevskii — Course in Theoretical Mechanics, Vol. 1 — Reviewed by T. V. Putyata and V. N. Fradlin	1258	130
B. Porter and T. R. Crossley — Modal Control — Reviewed by V. E. Larin and A. E. Zakrzhevskii	1260	131
CHRONICLES		
Third Polish—Soviet Conference on Nonclassical Problems in the Theory of Elasticity (Warsaw, May 22-25, 1973) — V. T. Grinchenko, A. D. Kovalenko, and Ya. Ya. Rushchitskii	1262	133
OBITUARIES		
Anatolii Dmitrievich Kovalenko	1268	138

Volume 9, Number 12 December, 1973

Optimum Allocation of Vibration Pickups on Randomly Vibrating Structures on the Basis of Information Theory — R. F. Ganiev and V. M. Kuz'ma	1271	3
Asymptotic Equations for a Concentrated Effect, Taking into Account Physical Nonlinearities in Thin Shells — I. G. Teregulov and L. I. Mogilevkin	1277	10
Numerical Investigation of the Convergence of the Kantorovich—Vlasov Method for Elastic Shells — V. V. Amel'chenko, E. F. Burmistrov, and V. A. Krys'ko	1281	15
Propagation of Harmonic Waves in an Initially Deformed Cylinder of an Incompressible Material — F. G. Makhort	1287	22
Stability of Smooth Shells of Minimum Weight — V. R. Terrovere	1293	30
Elastic—Plastic State of Shells in the Connector Frame Zone — V. S. Babyak	1298	36
Effect of the Poisson Ratio on Strain in the Contact of a Cylinder with a Halfspace — A. D. Lizarev	1304	43
Strain and Electric-Field Patterns in an Electroelastic Halfspace Showing the Piezoelectric Effect — I. A. Vekovishcheva	1308	48
Applicability of Hardening Hypotheses for Small Plastic Strains — V. N. Bastun and N. I. Chernyak	1312	53

	Engl.	Russ.
On the Reissner–Sagoci Problem — M. I. Chebakov	1316	58
Numerical Solution of the Differential Equations of Plastic Flow — V. I. Odinokov	1321	64
Dynamic Pressures during Discharge of a Friable Material from Deep Containers — A. V. Anatol'ev and V. P. Chobotov	1327	71
Action of Nonstationary Waves on Cylindrical Bodies in a Compressible Liquid — V. D. Kubenko and N. N. Panasyuk	1333	77
Vibrations of Objects of Variable Length with Geometrical Nonlinearity — P. I. Ul'shin	1338	83
Application of the Method of Limiting Complex Potentials to the Solution of Problems of Filtration Theory in a Two-Layered Medium — V. I. Lavrik and T. V. Didkovskaya	1343	89
On an Algorithm to Solve Boundary Value Problems of Plate Bending — V. I. Dem'yanenko	1349	96
Calculating the Stress and Strain State of the Flexible Wheel of a Wave Toothed Transmission — G. I. Kokhanovskii, V. S. Polenov, and V. V. Spiridonov	1355	103
BRIEF COMMUNICATIONS		
Behavior of Cylindrical Metal and Glass-Reinforced Plastic Shells under Identical Dynamic Loading Conditions — A. A. Naida	1359	108
Investigation of the Dynamics of an Orthotropic Plate Taking Account of the Mobility of the Base — A. V. Stezhko	1362	111
Analysis of Data from the Method of Photoelasticity Using the Thermoelectric Method — I. I. Ishchenko, A. G. Cheberyak, and V. Ya. Bash	1366	115
Dynamic Errors in Fatigue Tests — G. M. Ruzina	1370	119
Calculation of Prismatic Bars of Arbitrary Shape under Torsion — V. A. Krys'ko and S. S. Sokolov	1373	123
CHRONICLES		
Proceedings of the Scientific Republic Seminar "Hydrodynamics and Hydrobionics" of the Hydromechanics Institute of the Academy of Sciences of the Ukrainian SSR — A. Ya. Oleinik, L. F. Kozlov, V. V. Babenko, and A. P. Makarov	1377	128
Republic Seminar on Hydrodynamics of Hydrotechnical Structures and Hydroengineering — S. I. Kril' and A. A. Dobronravov	1380	130
INDEX		
Author Index, Volume 9, Numbers 1-12, 1973	1385	
Tables of Contents, Volume 9, Numbers 1-12, 1973	1389	